WO 96/14431 PCT/US95/14301

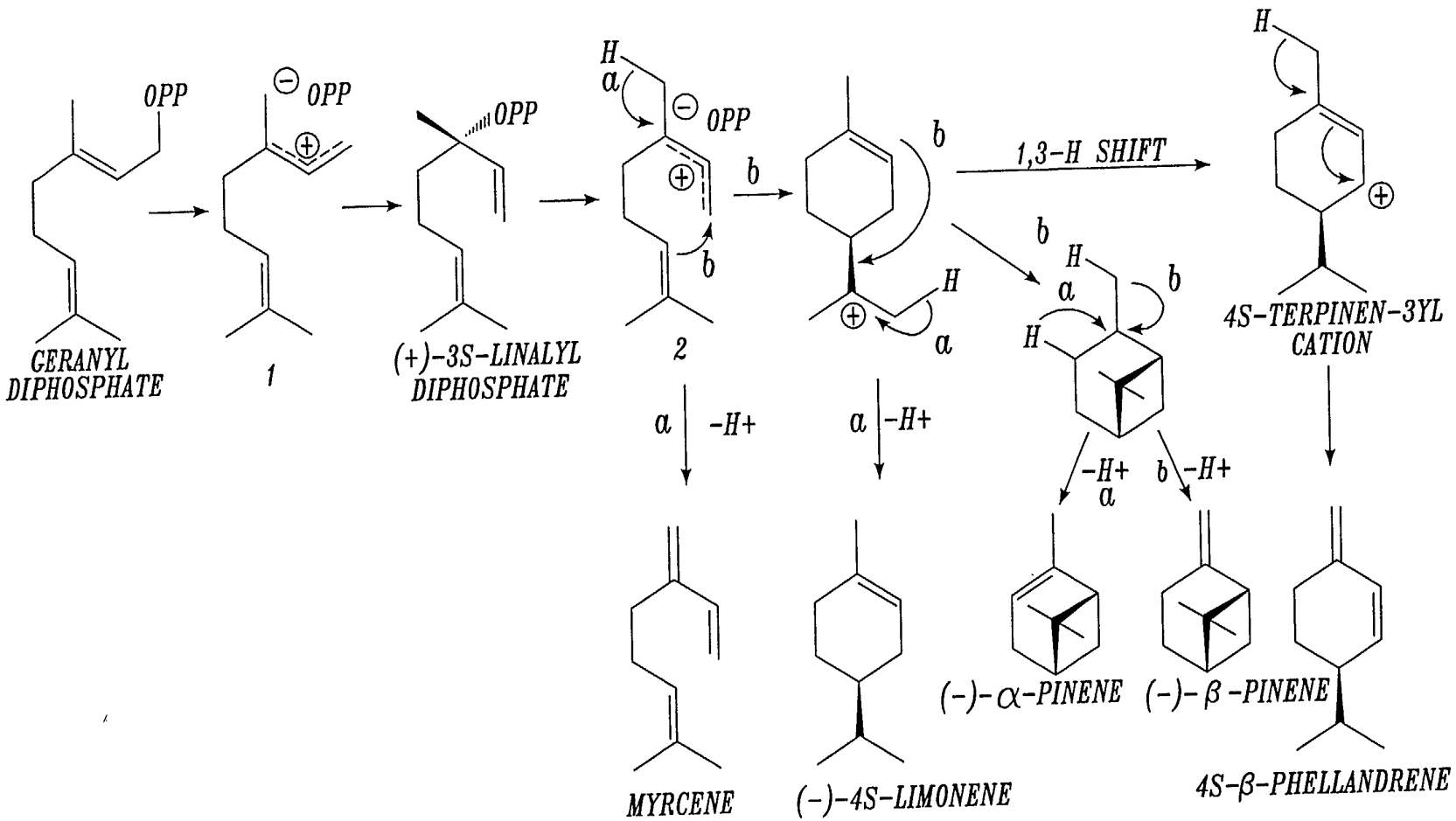
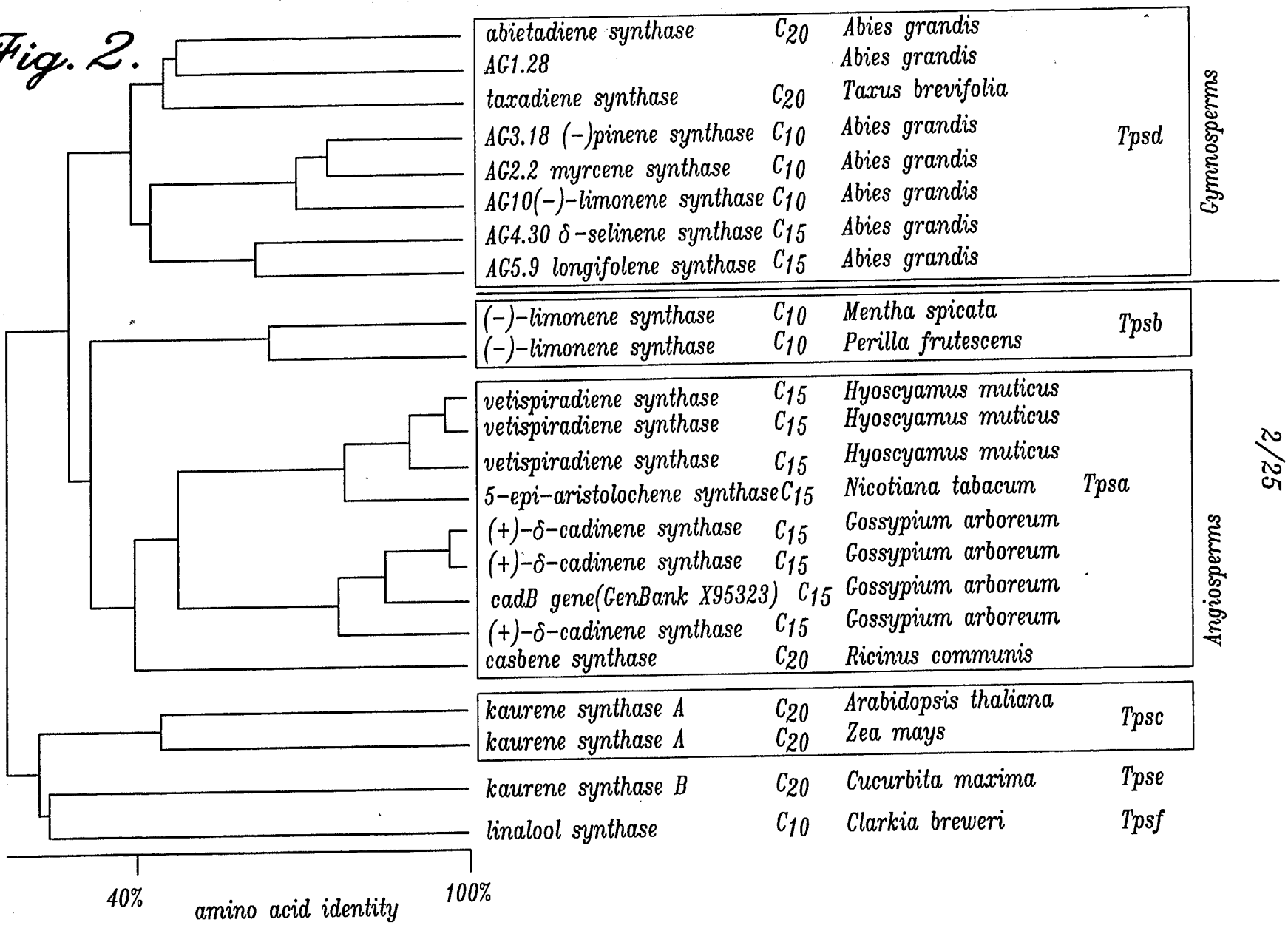


Fig. 1.

Fig. 2.


abietadiene synthase C20 Abies grandis
AG1.28 Abies grandis
taxadiene synthase C20 Taxus brevifolia
AG3.18 (-)pinene synthase C10 Abies grandis
AG2.2 myrcene synthase C10 Abies grandis
AG10(-)-limonene synthase C10 Abies grandis
AG4.30 δ-selinene synthase C15 Abies grandis
AG5.9 longifolene synthase C15 Abies grandis
Tpsd
Gymnosperms
(-)-limonene synthase C10 Mentha spicata
(-)-limonene synthase C10 Perilla frutescens
Tpsb
vetispiradiene synthase C15 Hyoscyamus muticus
vetispiradiene synthase C15 Hyoscyamus muticus
vetispiradiene synthase C15 Hyoscyamus muticus
5-epi-aristolochene synthase C15 Nicotiana tabacum
Tpsa
(+)-δ-cadinene synthase C15 Gossypium arboreum
(+)-δ-cadinene synthase C15 Gossypium arboreum
cadB gene(GenBank X95323) C15 Gossypium arboreum
(+)-δ-cadinene synthase C15 Gossypium arboreum
casbene synthase C20 Ricinus communis
Angiosperms
kaurene synthase A C20 Arabidopsis thaliana
kaurene synthase A C20 Zea mays
Tpsc
kaurene synthase B C20 Cucurbita maxima
Tpse
linalool synthase C10 Clarkia breweri
Tpsf
40%
amino acid identity
100%

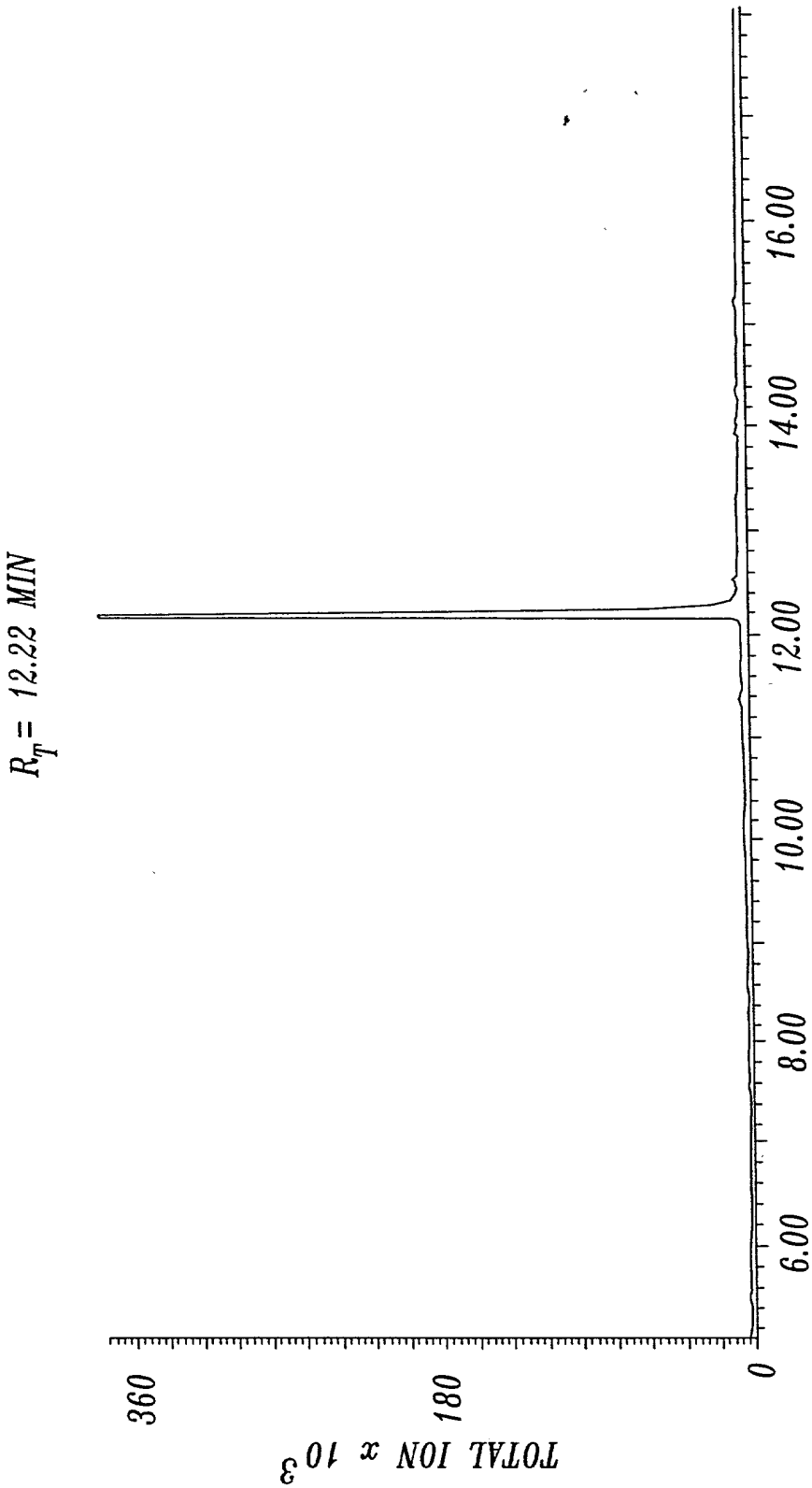

R_T = 12.22 MIN
TOTAL ION x 10^3
360
180
0
6.00
8.00
10.00
12.00
14.00
16.00
TIME (MIN)

Fig. 3A.

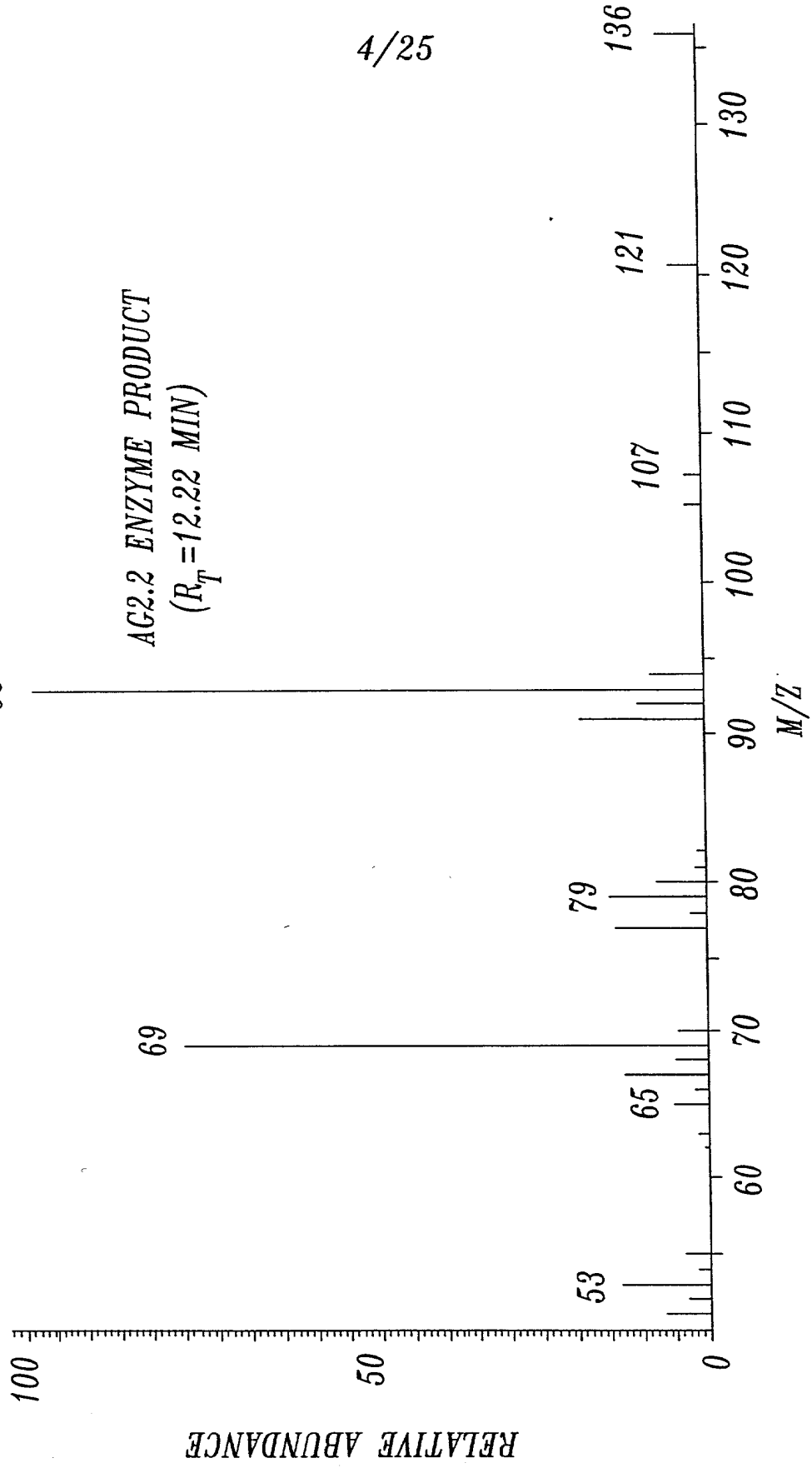

AG2.2 ENZYME PRODUCT
(R_T=12.22 MIN)
RELATIVE ABUNDANCE
M/Z
100
50
0
53
65
69
79
93
107
121
136
60
70
80
90
100
110
120
130

Fig. 3B.

SUBSTITUTE SHEET

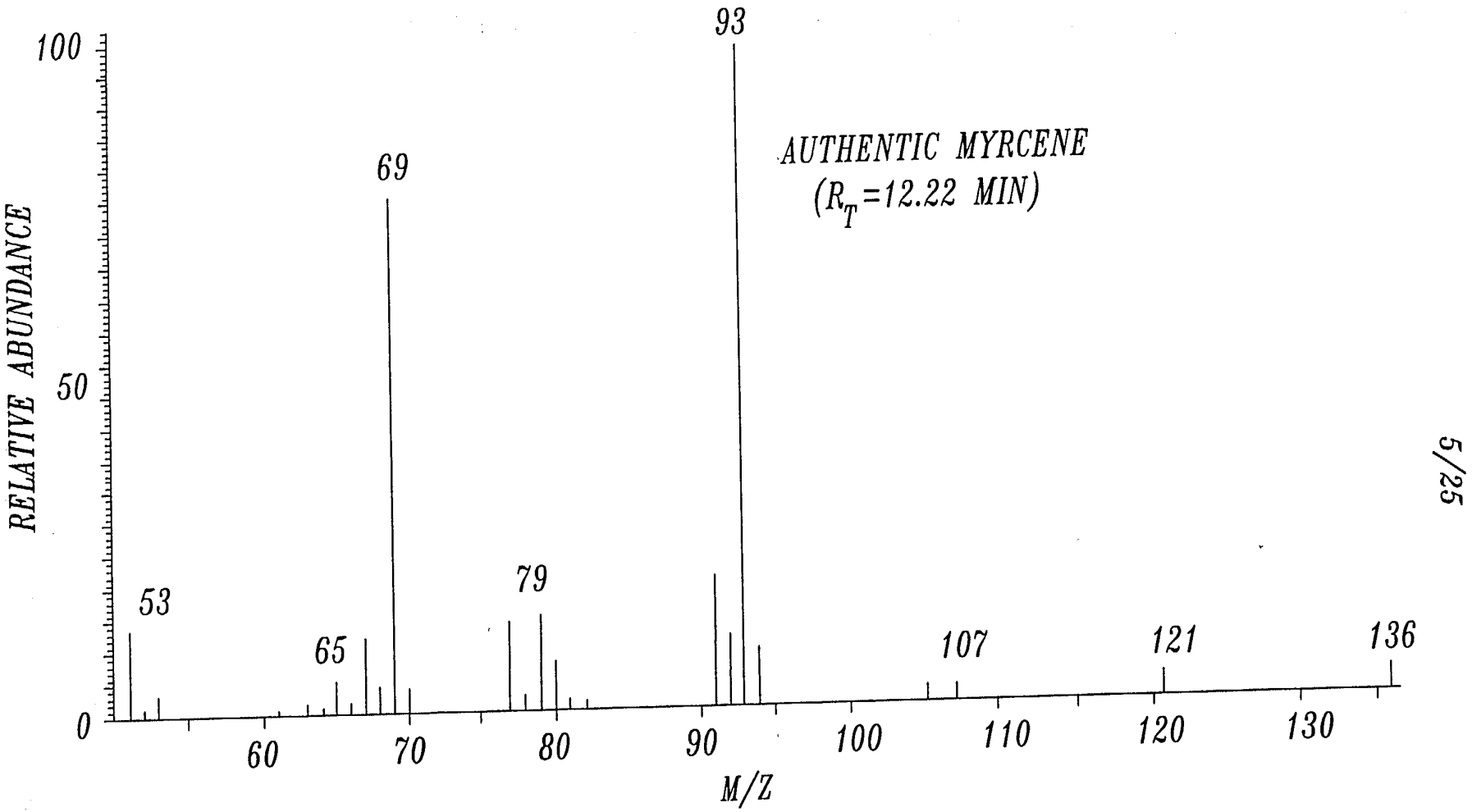


Fig. 3C.

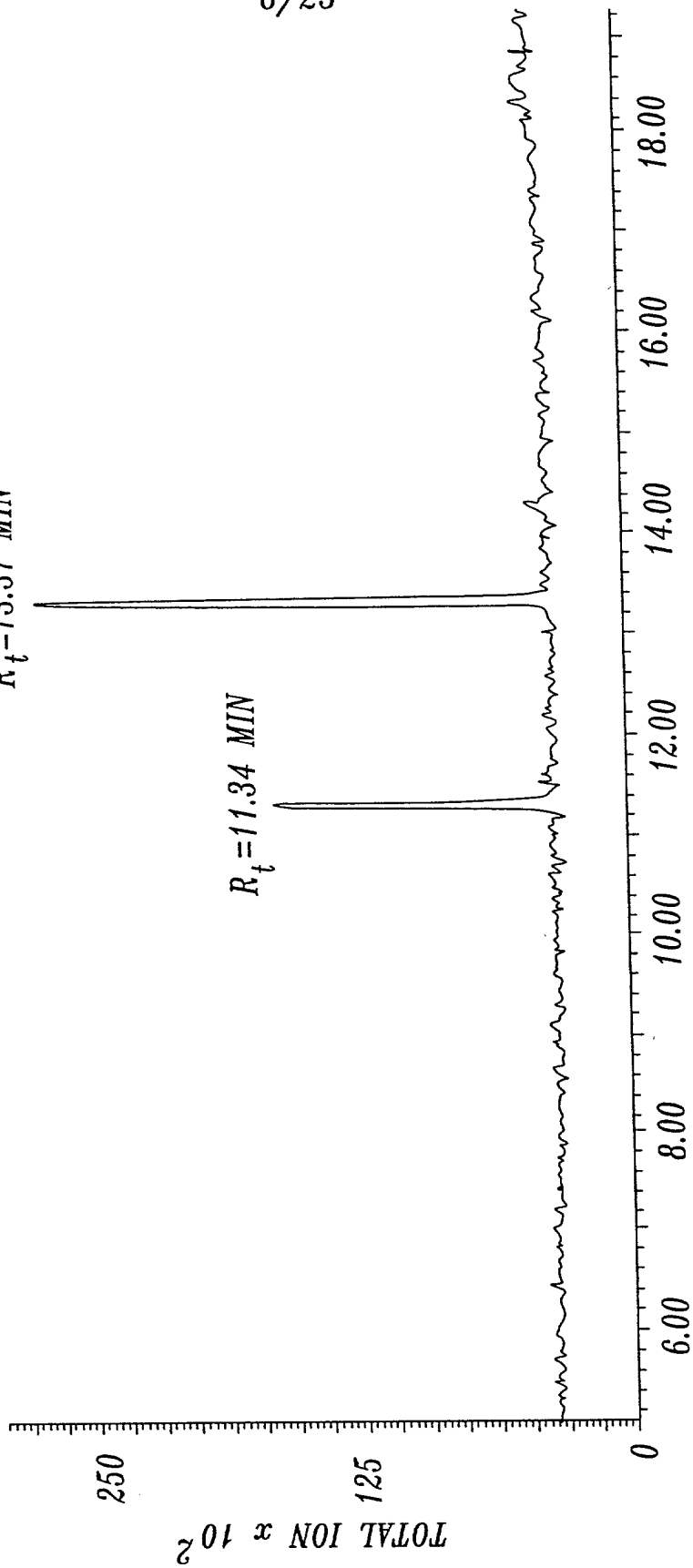

R_t=13.37 MIN
R_t=11.34 MIN
TOTAL ION x 10^2
250
125
0
6.00
8.00
10.00
12.00
14.00
16.00
18.00
TIME (MIN)

Fig. 4A.

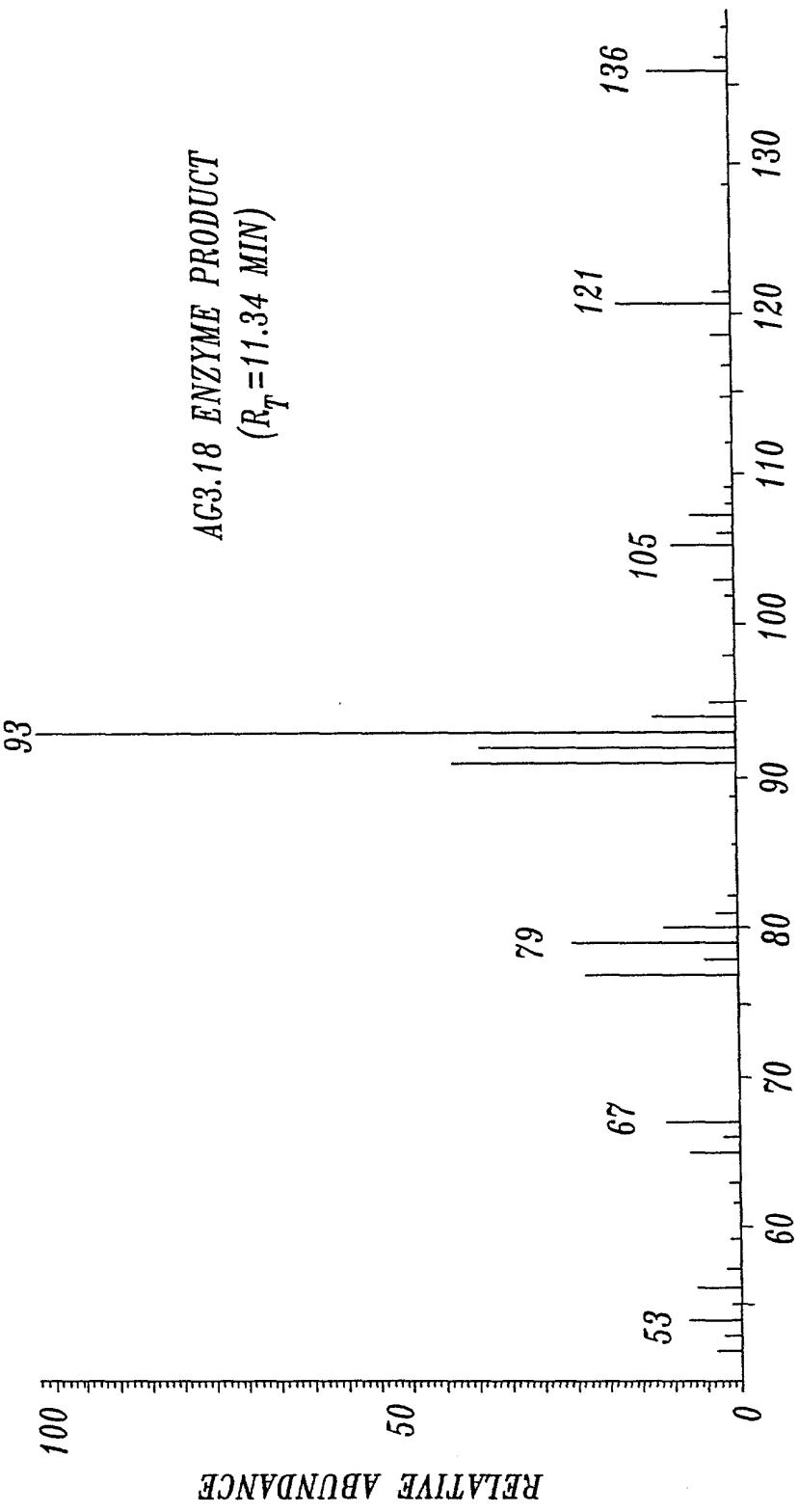

AG3.18 ENZYME PRODUCT
(R_T=11.34 MIN)
RELATIVE ABUNDANCE
100
50
0
M/Z
53
67
79
93
105
121
136
60
70
80
90
100
110
120
130

Fig. 4B.

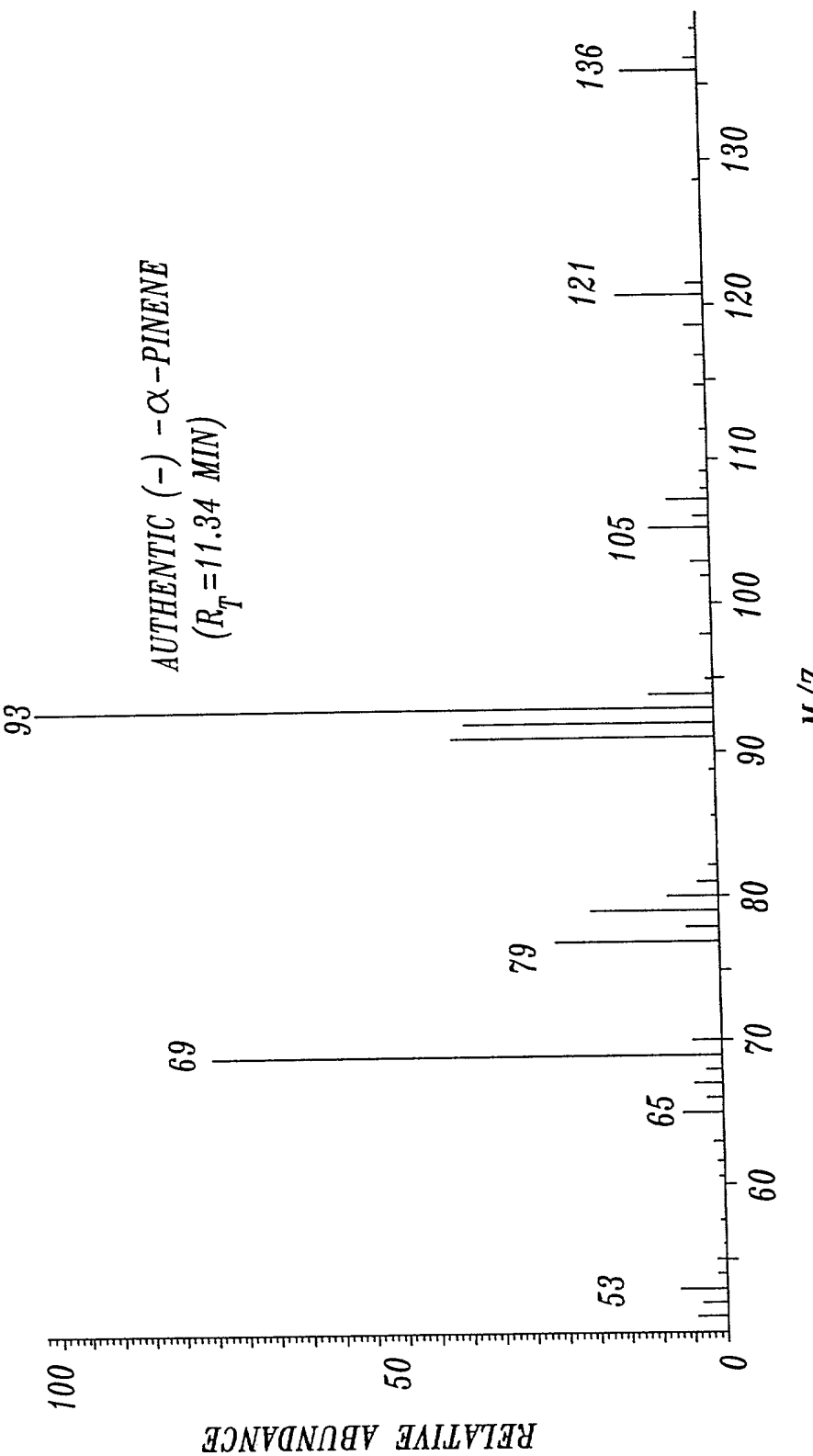

AUTHENTIC (-) -α-PINENE
(R_T=11.34 MIN)
RELATIVE ABUNDANCE
M/Z
100
50
0
53
65
69
79
93
105
121
136
60
70
80
90
100
110
120
130

Fig. 4C.

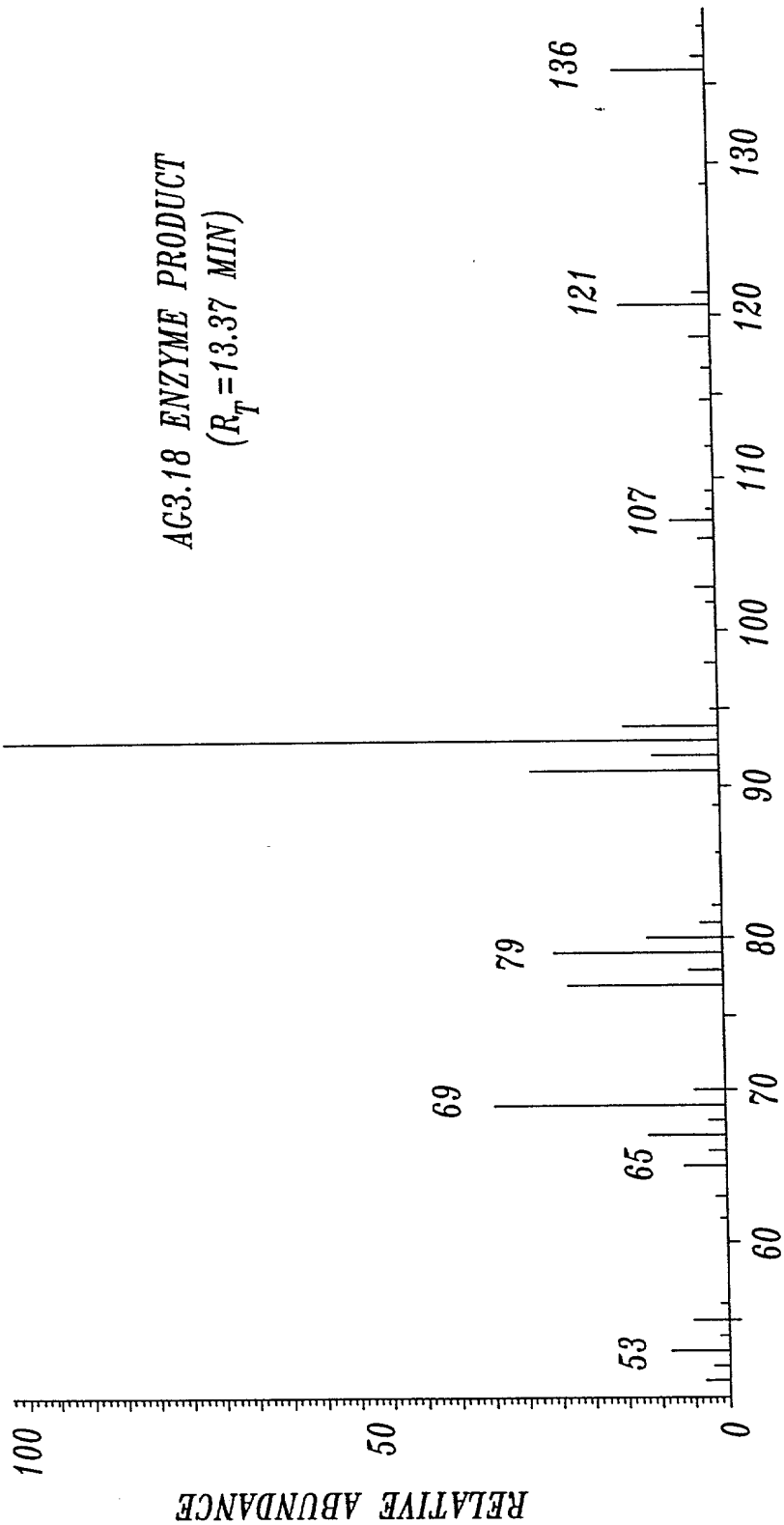

AG3.18 ENZYME PRODUCT
(R_T=13.37 MIN)
RELATIVE ABUNDANCE
100
50
0
M/Z
53
65
69
79
93
107
121
136
60
70
80
90
100
110
120
130

Fig. 4D.

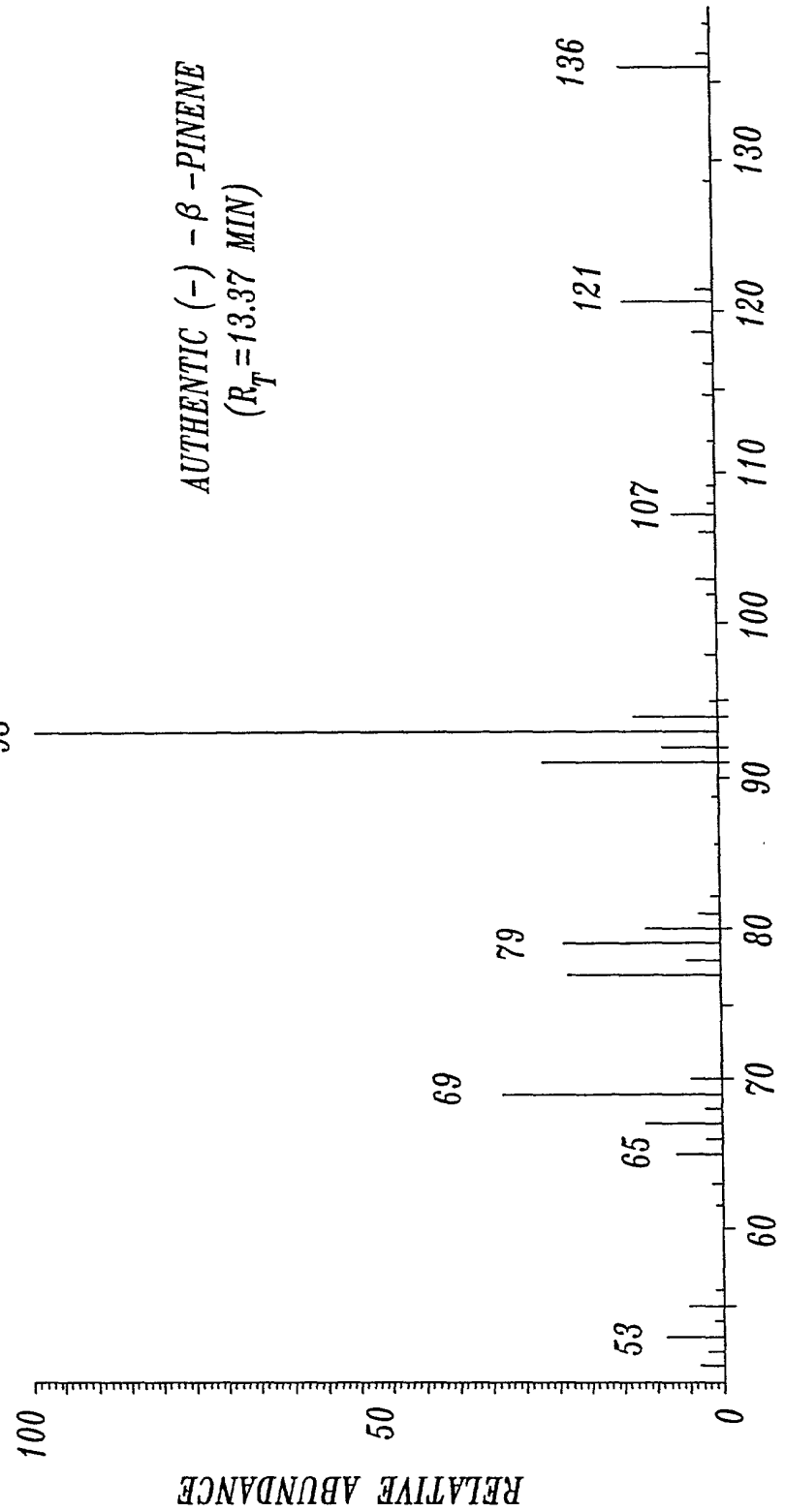

AUTHENTIC (-) - β -PINENE
(R_T=13.37 MIN)
RELATIVE ABUNDANCE
100
50
0
M/Z
53
65
69
79
93
107
121
136
60
70
80
90
100
110
120
130

Fig. 4E.

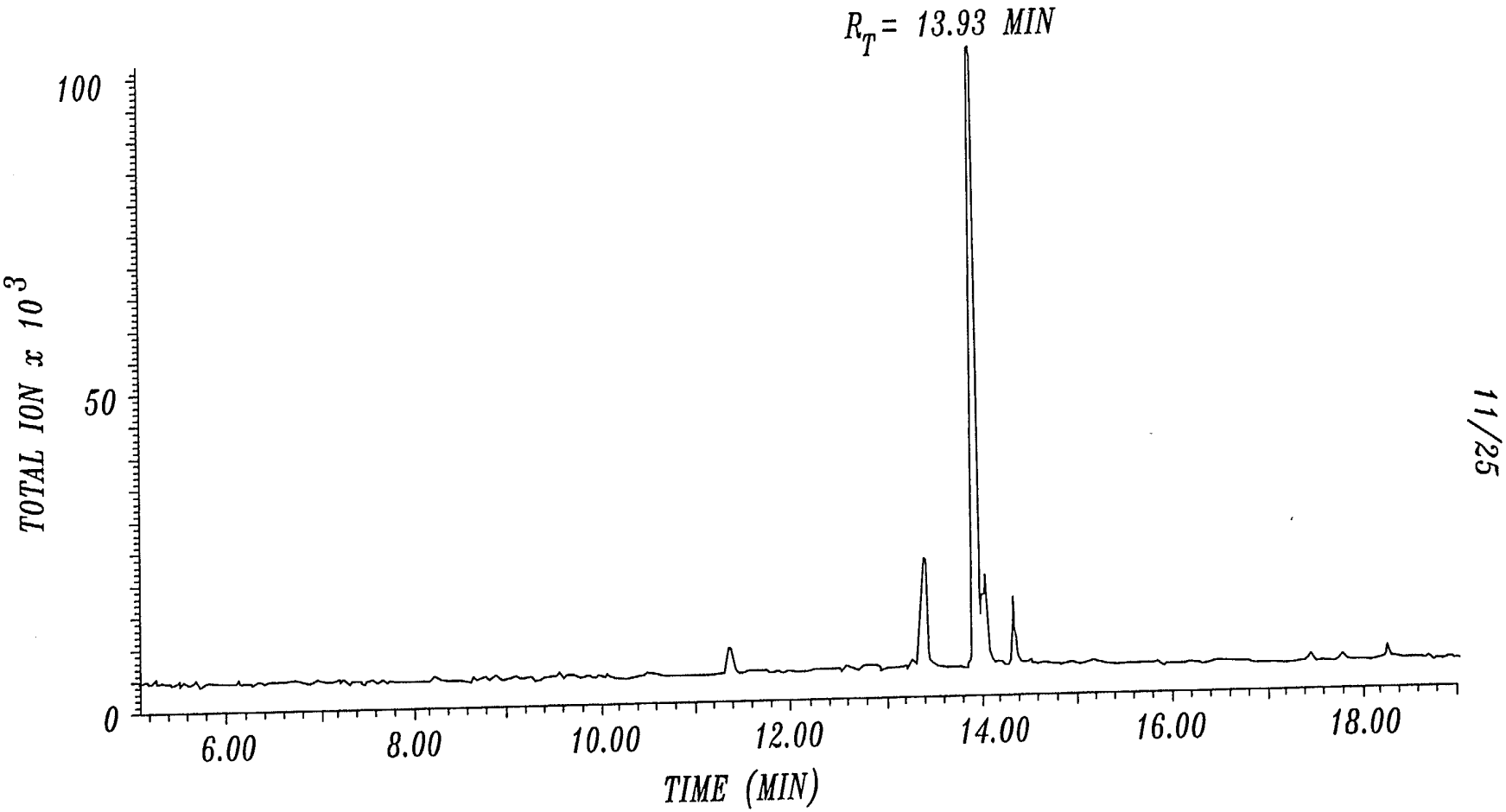

R_T = 13.93 MIN
100
50
0
TOTAL ION x 10^3
6.00
8.00
10.00
12.00
14.00
16.00
18.00
TIME (MIN)

Fig. 5A.

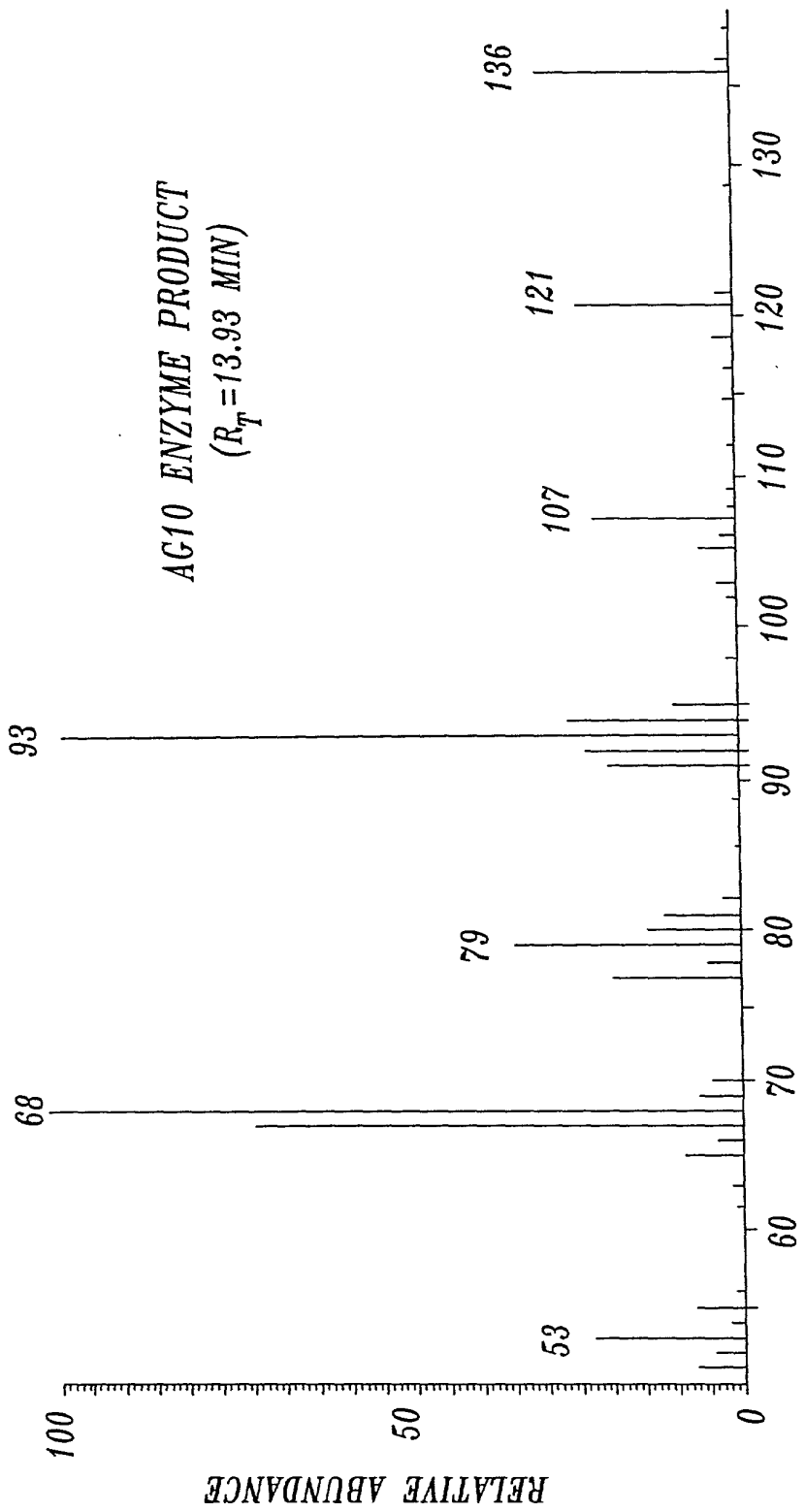

AG10 ENZYME PRODUCT
(R_T=13.93 MIN)
RELATIVE ABUNDANCE
100
50
0
M/Z
53
68
79
93
107
121
136
60
70
80
90
100
110
120
130

Fig. 5B.

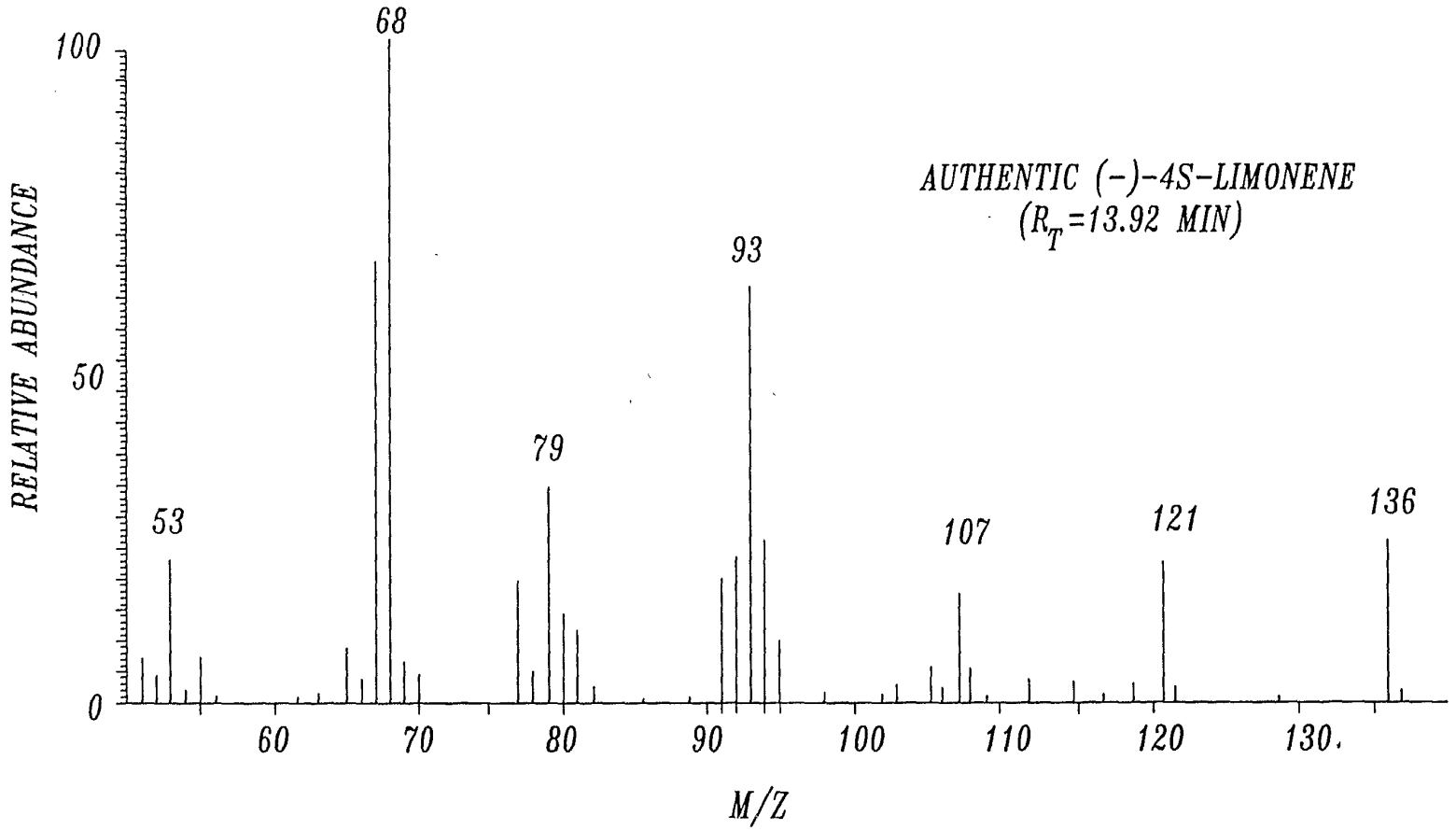

AUTHENTIC (-)-4S-LIMONENE
(R_T=13.92 MIN)
RELATIVE ABUNDANCE
100
50
0
68
93
79
53
107
121
136
60
70
80
90
100
110
120
130.
M/Z

Fig. 5C.

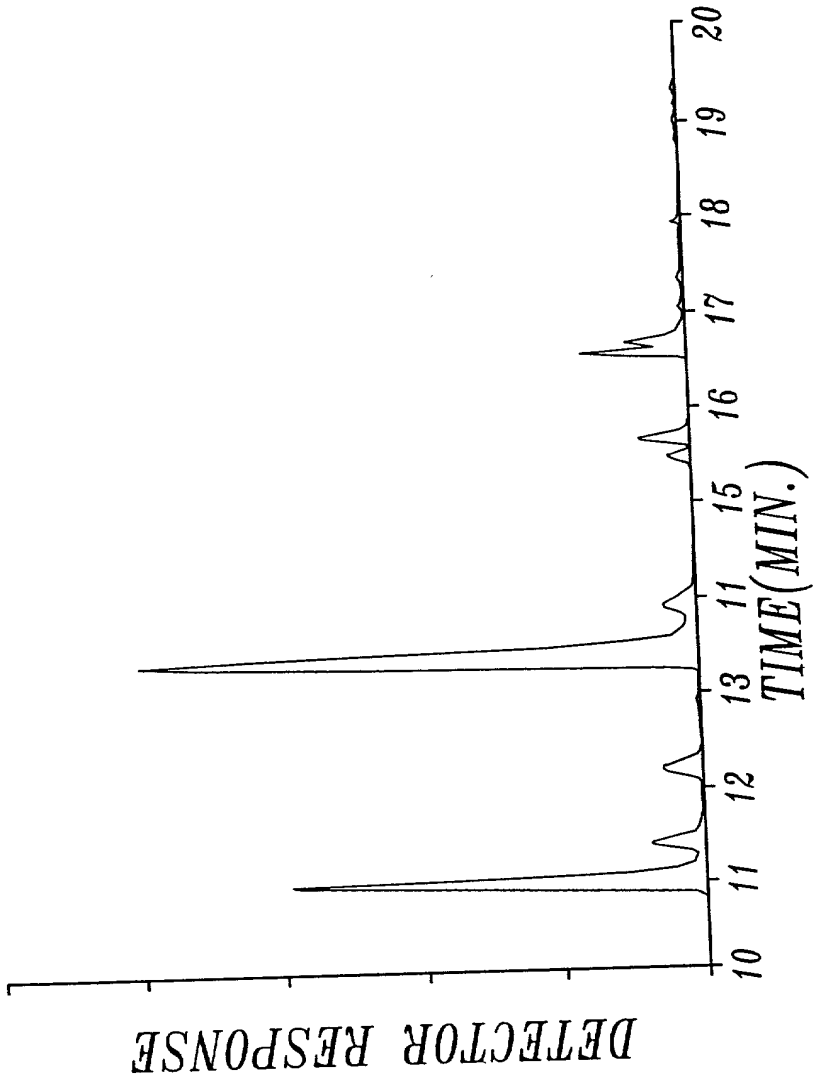


Fig. 6d.

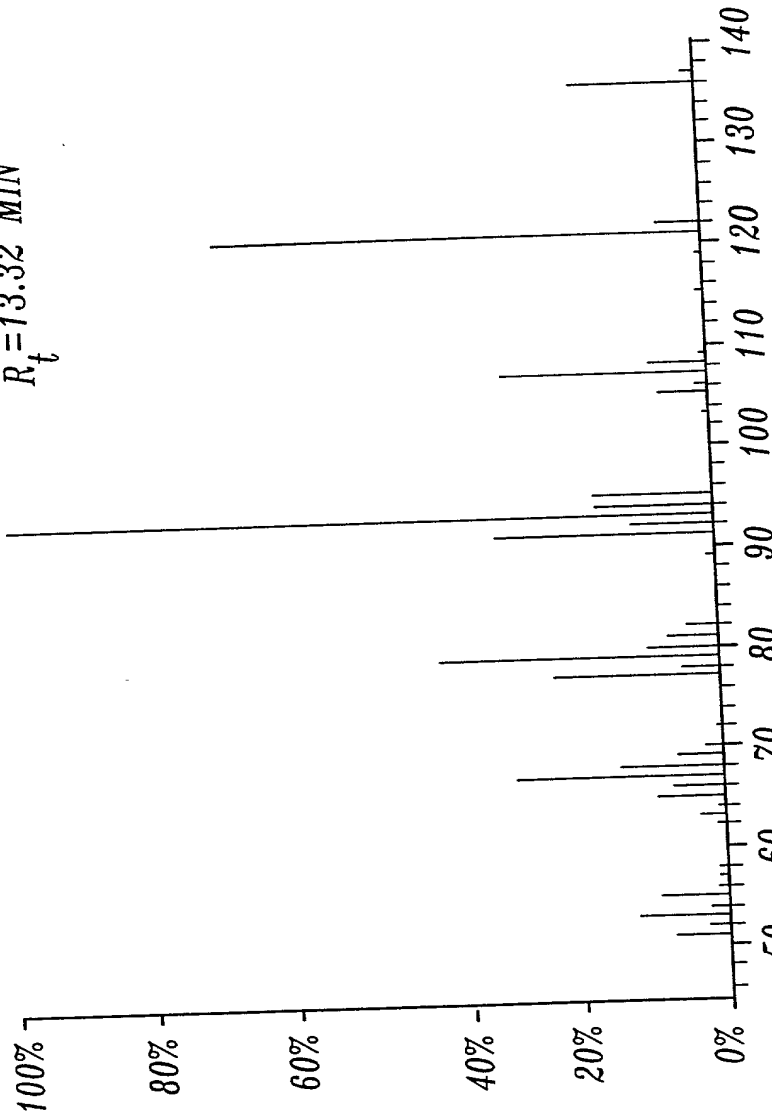


Fig. 6B.

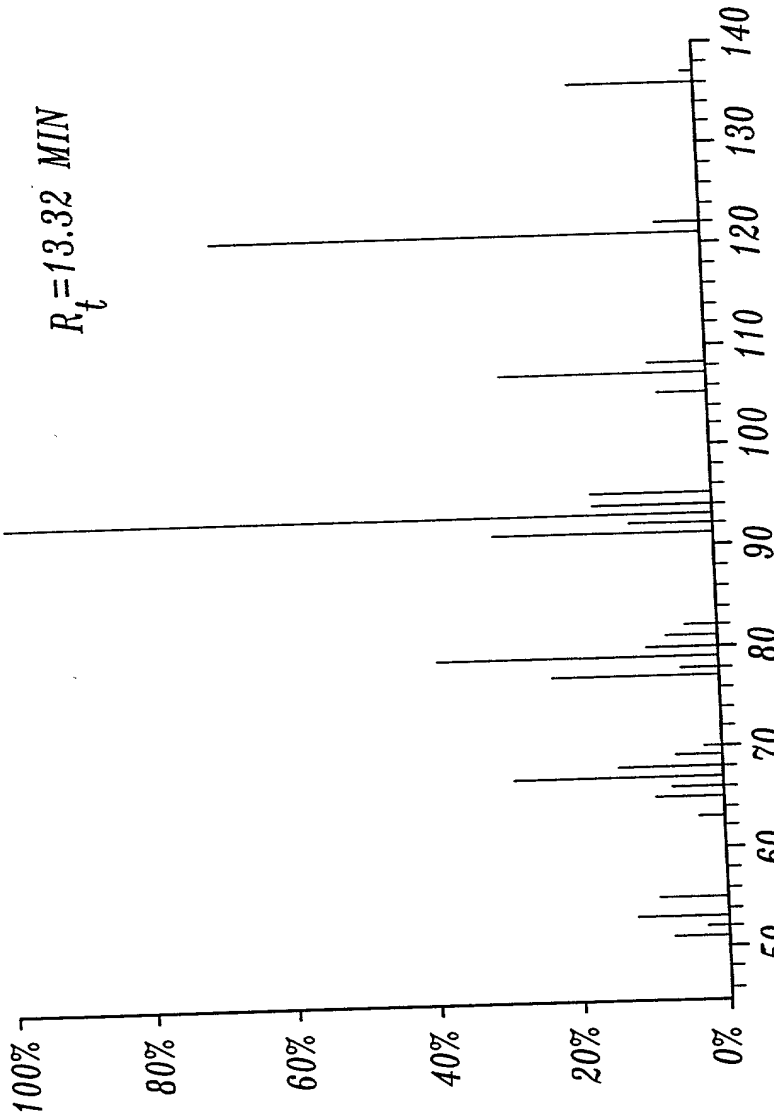


Fig. 6C.

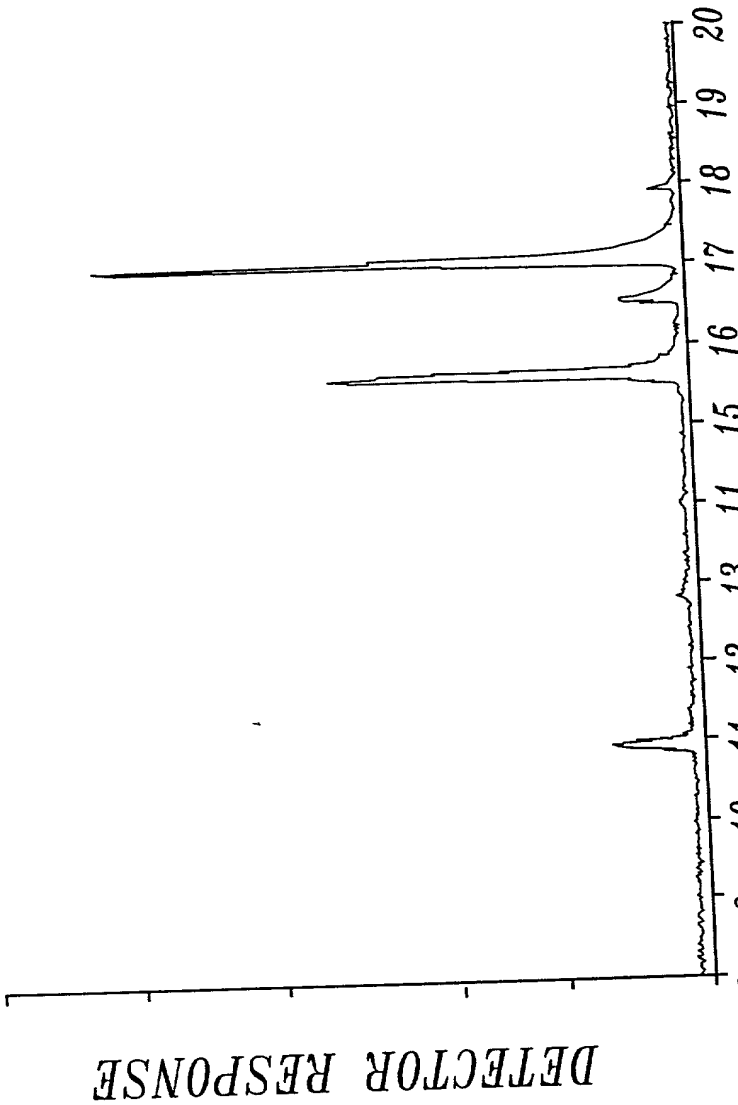


Fig. 7A.

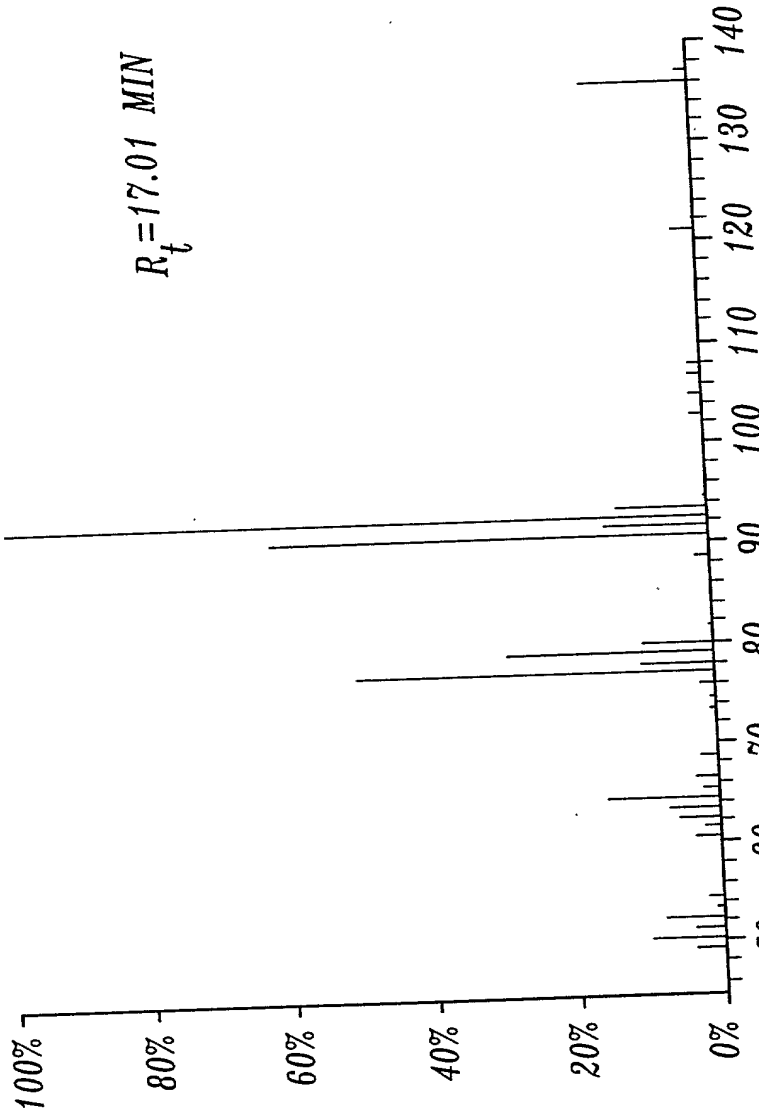


Fig. 7B.

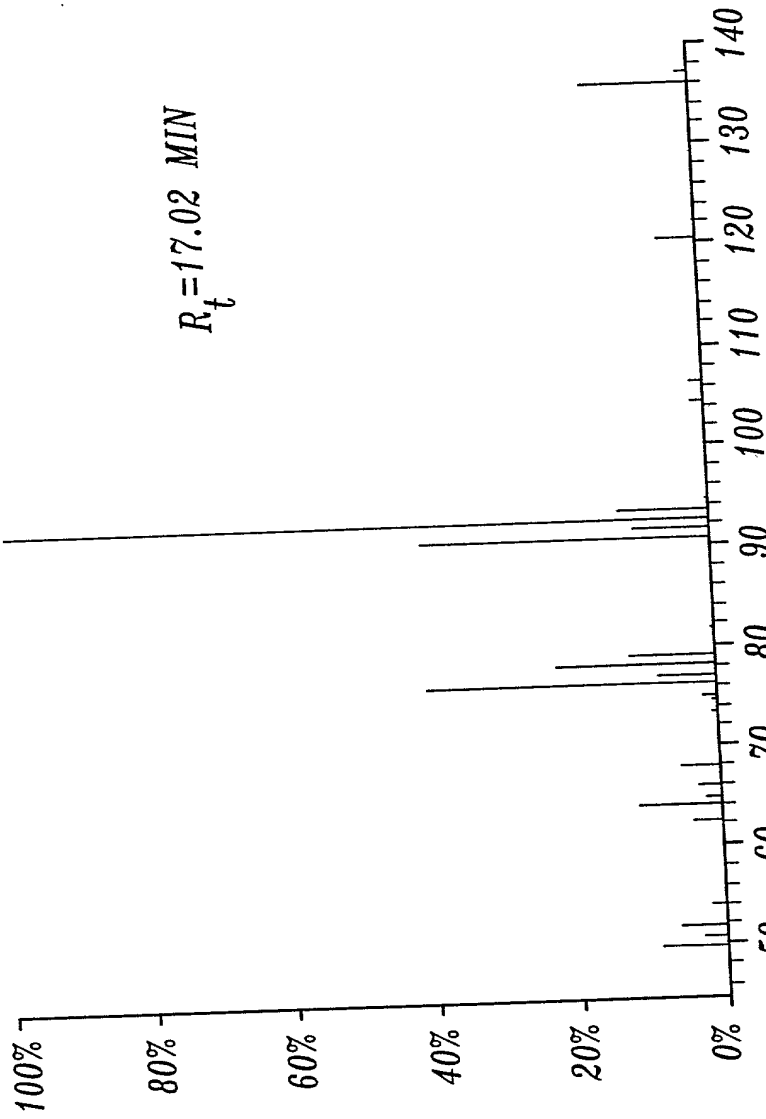


Fig. 7B.

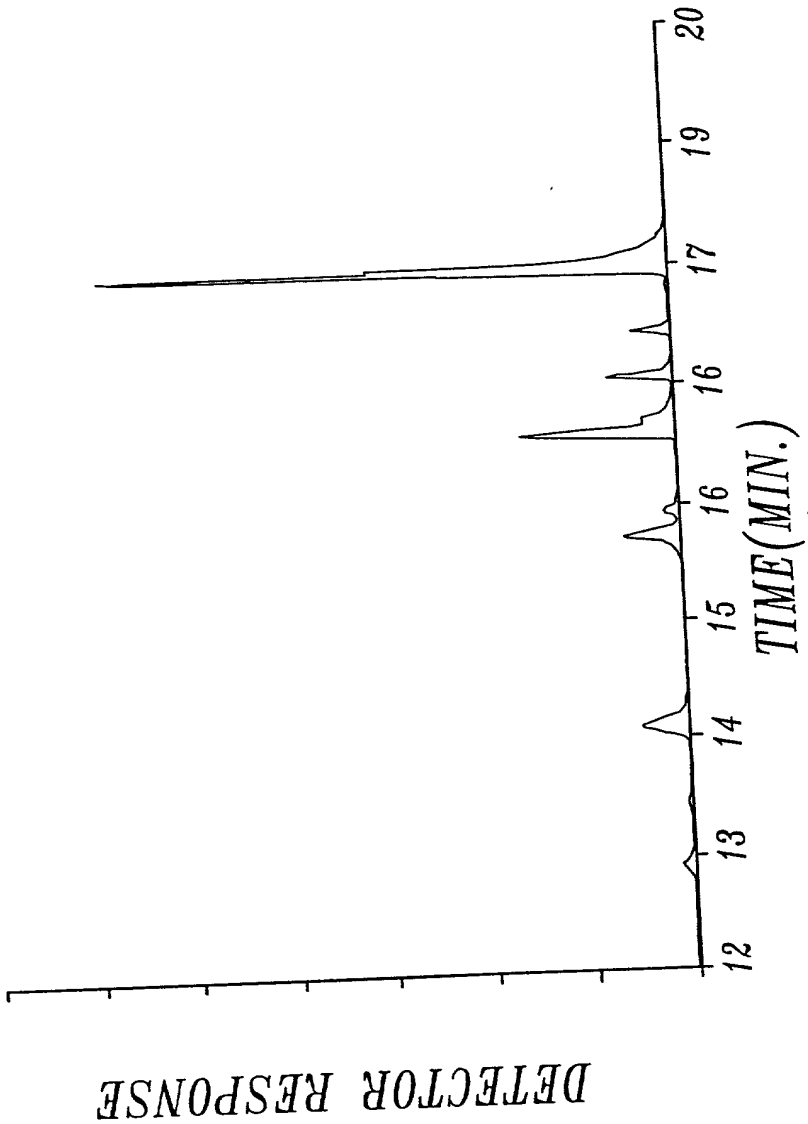


Fig. 8d.

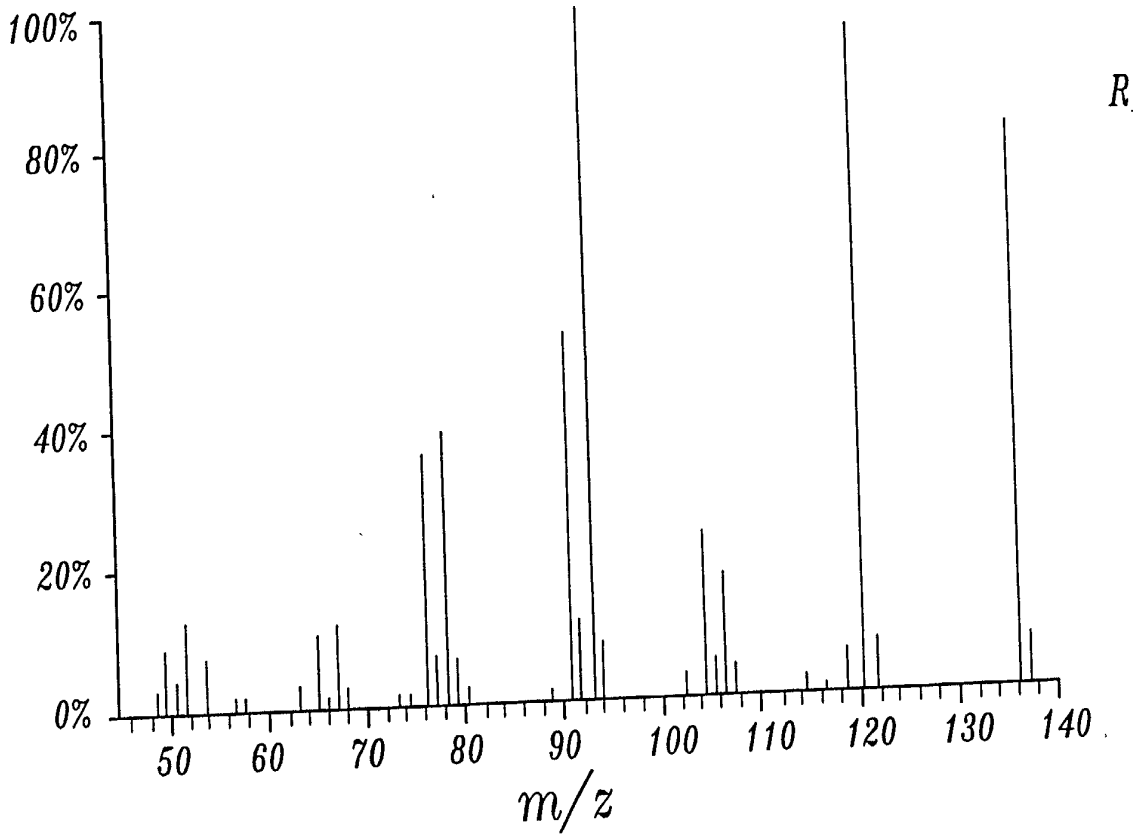


Fig. 8B.

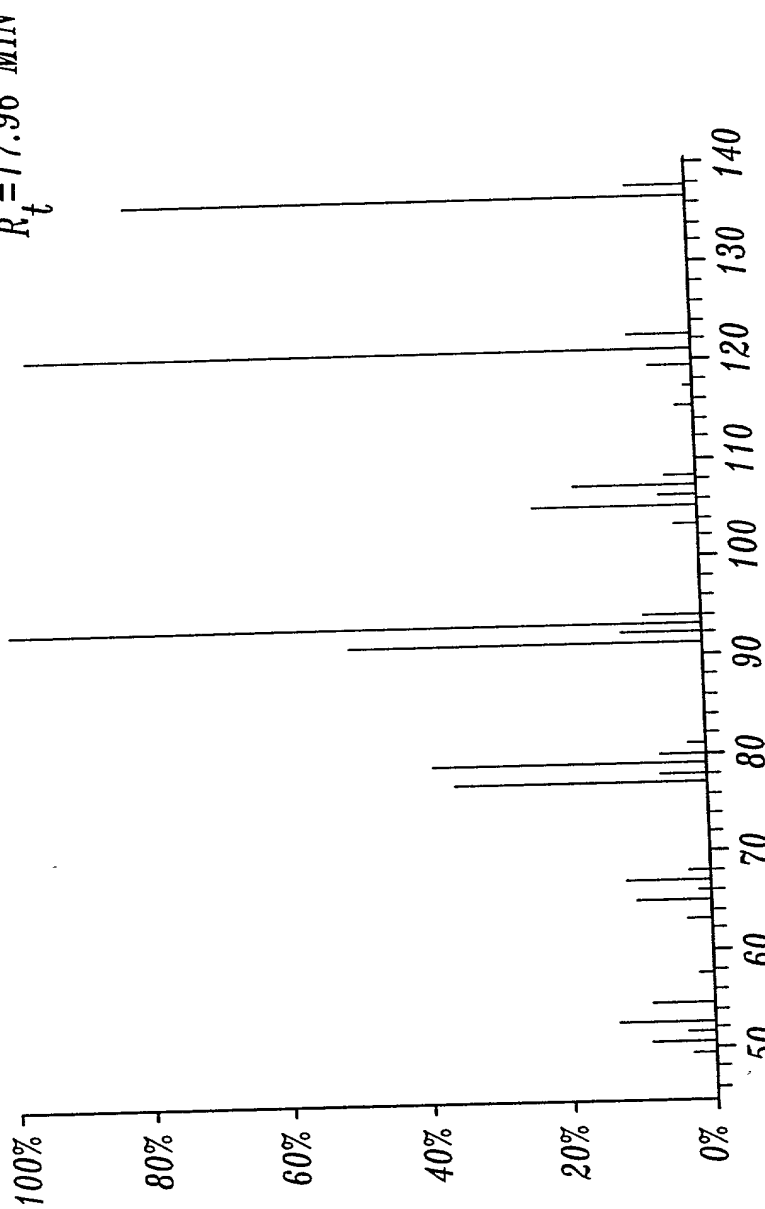


Fig. 8C.

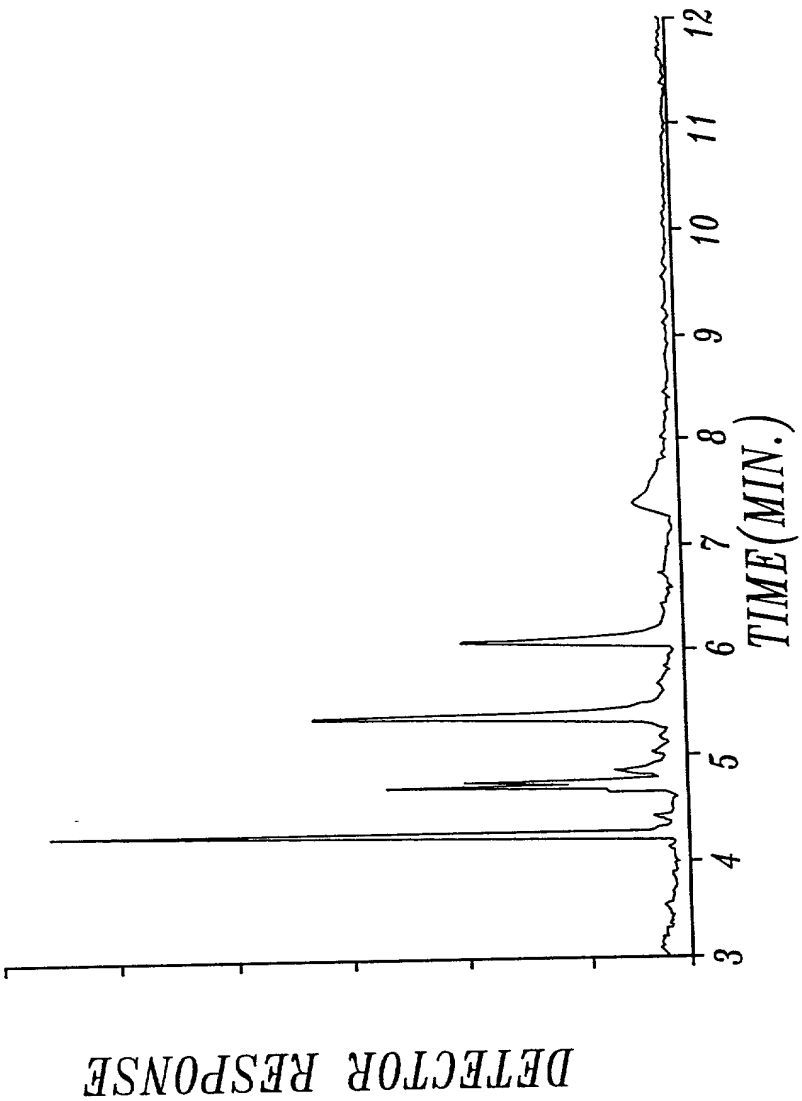


Fig. 9A.

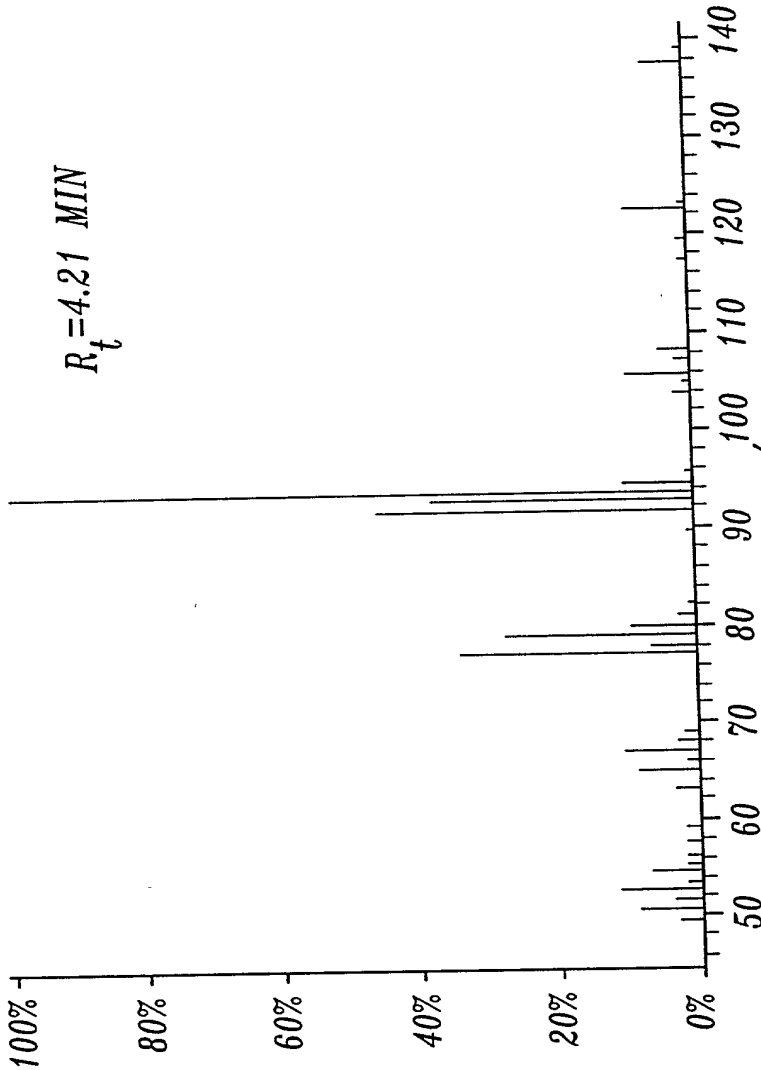


Fig. 9B.

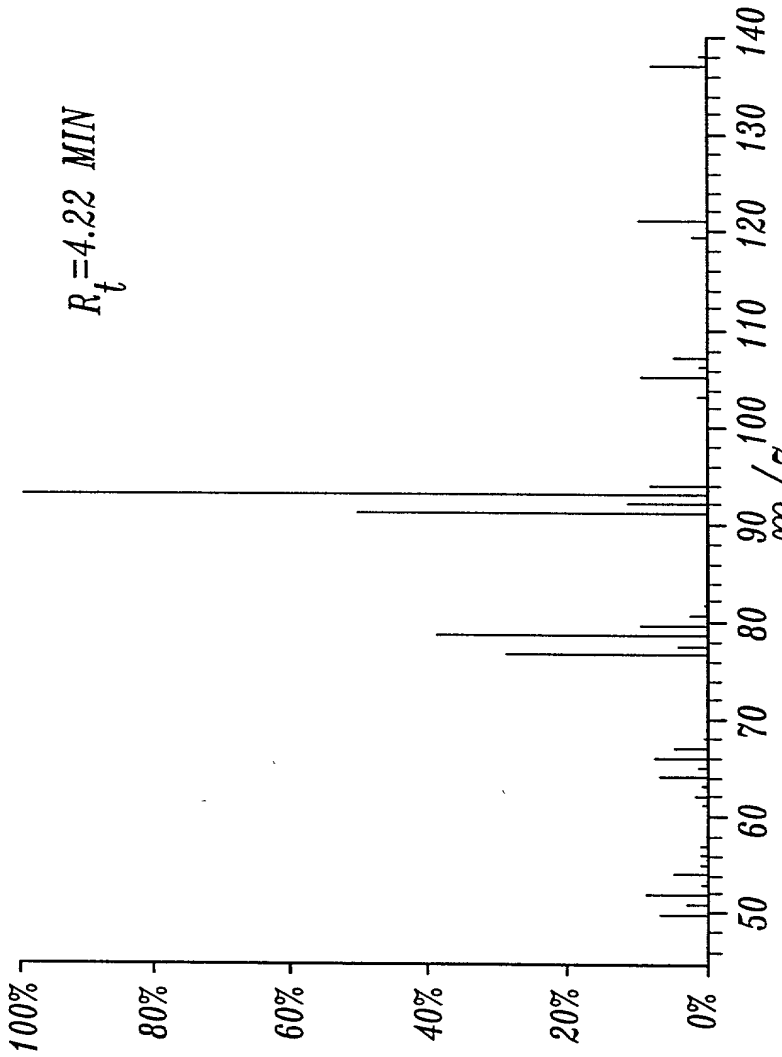


Fig. 9E.